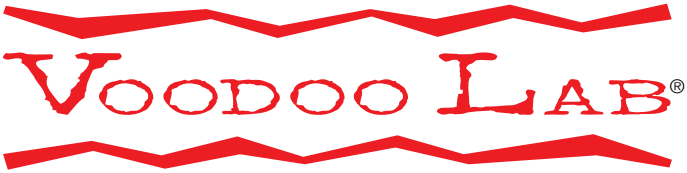

PEDAL POWER™ 2 PLUS

User's Manual

Please visit our web site at:

www.voodoolab.com

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VOODOO LAB PEDAL POWER

User's Manual

Introduction

The Voodoo Lab Pedal Power 2 Plus is the finest power supply available for guitar effects. It's eight 9V outputs will power any type of battery operated effect. Each output is completely isolated, short-circuit protected, highly filtered and regulated. This insures reliable operation, free of hum and noise.

Pedal Power 2 Plus includes two high current outputs, capable of properly powering newer high power effects such as Boss Twin, Line 6 modelers, and TC Electronic Nova pedals. It also features two variable voltage outputs to simulate worn batteries. Using an optional voltage doubler cable, you can power many 18V and 24V effects as well.

Please take the time to read this entire manual before operating your Voodoo Lab Pedal Power. This will eliminate the possibility of damage to your effects from improper usage. You can also visit our web site at www.voodoolab.com for the latest information on this and other products.

Important: *Pedal Power units purchased in North America should only be powered from 120VAC. Attempting to use 220-240VAC mains directly will cause permanent damage to your Pedal Power! You must use an appropriate stepdown transformer.*

Unpacking

Your Voodoo Lab Pedal Power box should contain the following:

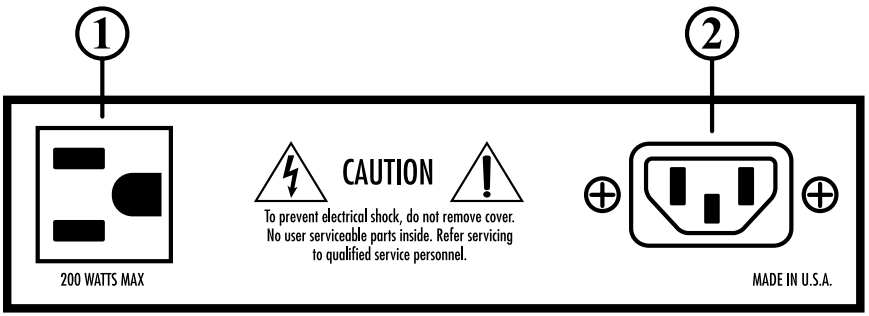
- Pedal Power 2 Plus system unit
- Warranty card
- AC power cord
- DC Power cables:
  - 5.5x2.1mm right angle barrel connectors (6)
  - 5.5x2.1mm straight barrel connectors (2)
  - 5.5x2.5mm “red” barrel (1)
  - 3.5mm mini plug (1)
  - 9V battery snap (1)

Please take a moment to fill out and mail your warranty card. This will register your warranty, make you eligible for technical support, and allow us to notify you with updates and new product information. Don’t worry, we respect your privacy and never sell our mailing list.

System Unit Description

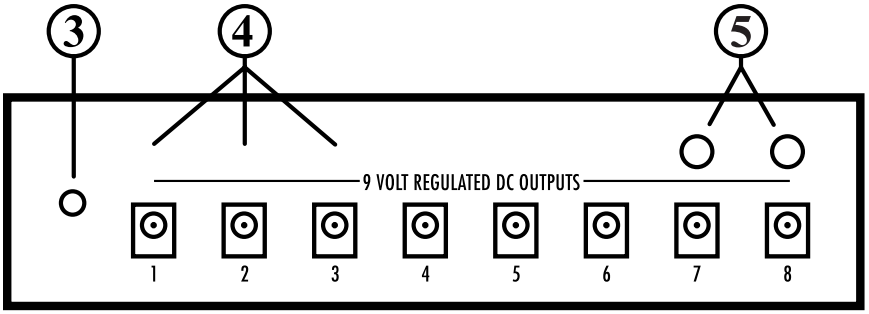
1. AC auxiliary. This is a courtesy AC outlet for convenient powering of AC powered effects or a MIDI foot controller. Note the 200 watt maximum rating. Do NOT plug in your amp here!

2. AC power input jack. This is a standard “IEC-type” connector.



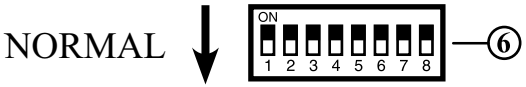
3. Power indicator. This LED indicates the Pedal Power system unit is operating.

4. DC output jacks (8). Each output provides 9 volts of isolated, filtered and regulated DC power for your pedal effects.



5. SAG controls. Next to output jacks 7 and 8 are controls to vary the voltage from 4V to 9V.

6. Voltage selector DIP switches. These switches select the output voltage. Switches 1-8 correspond to DC outputs 1-8. Normal 9V operation is with the switch in the NORMAL (OFF) position.



About Pedal Boards

Before connecting the Pedal Power to your pedals, let's talk about pedal boards. The best installation is to mount your pedals and power supply to a suitable pedal board. You can use anything from a piece of plywood, a professionally built board from most flight case manufacturers, or one of the innovative designs from Pedaltrain. Securely mounting your effects and power supply will make it easy to transport without damage and eliminates excessive flexing of cables which will cause their premature failure.

Most devices (pedal effects, power supply, tuner, volume pedals, wah, etc.) can be mounted to the pedal board using an industrial adhesive-backed velcro such as 3M dual lock. Audio cables should be as short as possible. You can use off-the-shelf patch cords, or better yet, make your own exactly to length.

Once the cables are all neatly routed, finish the job by securing them with nylon cable ties and cable tie mounts. If you constructed the board itself, heavy duty rubber feet and metal handles are useful and will give a professional appearance.

Voodoo Lab can supply you with most necessary materials including dual lock, cable, connectors, hardware and many professional wiring accessories. Contact us for current availability and pricing.

Connections

The Voodoo Lab Pedal Power has eight DC output jacks. These accept barrel type connectors. Notice that each of your DC power cables have a barrel connector on at least one end. The other end has either another identical barrel connector, a 5.5x2.5mm RED barrel, a 3.5mm mini-plug, or a battery snap.

Use the standard black barrel connector cables with Boss, Ibanez, Voodoo Lab, and most common pedals. If you have a pedal from another manufacturer which appears to use the same connector, you should verify that the polarity is “center negative” to prevent damage to the pedal. This is the standard polarity and virtually all pedals are wired this way. Exceptions are the Fulltone ‘69, SoulBender, and Octafuzz pedals and Moogerfoogers, which have their power jacks wired for “center positive”. If you have these or other pedals which require reversed polarity, see “More About Cables” below.

When using the cables with 3.5mm mini plugs, you should verify that the polarity is “tip positive”. This is the standard polarity for pedals which use the 3.5mm mini plug for power.

If you have a pedal which has no power jack at all, but it runs on a single 9V battery, you can still power it using your Voodoo Lab Pedal Power. Use the cable with the 9V battery snap on one end. This will mate with the battery snap inside your pedal once its battery has been removed.

Voltage Selector DIP Switches

On the bottom of the Pedal Power is an 8 position DIP switch with switches numbered 1-8. These switches correspond to outputs 1-8 and select the output voltage. Normally, the switches should all be in the NORMAL position for 9 volt operation.

Boss Pedals

There are two types of Boss pedals. These are identified by the type of power supply specified, either PSA or ACA. Almost all Boss pedals specify the PSA type adapter and operate at 9V like most other pedals. Boss pedals which specify the ACA type adapter operate at a higher voltage. When powering Boss pedals that require ACA adapters you must use outputs 1-4 only and switch the corresponding voltage selector DIP switch *away* from NORMAL.

Boss Twin pedals, like the DD-20, have a higher current requirement and will operate from outputs 5 and 6 only. Leave the corresponding switch in the NORMAL position.

Line 6 Modeling Pedals

You can power the Line 6 modeling pedals (but not POD) using outputs 5 or 6 and setting the corresponding switch *away* from NORMAL. Remember to use the RED 5.5x2.5mm barrel cable for these pedals.

Line 6 Tone Core pedals can be powered from any output with its switch in the NORMAL position, using the black 5.5x2.1mm barrel cable.

TC Electronic Nova Pedals

The Nova series pedals from TC Electronic, such as ND-1 Nova Delay and NM-1 Nova Modulator, should be powered from outputs 5 or 6 only. Set the corresponding switch *away* from NORMAL and use the black 5.5 x 2.1mm barrel cable.

The exception is the NDR-1 Nova Drive, which requires higher current and can only be powered by combining both outputs 5 and 6 using a current doubling cable. Set switches 5 and 6 both *away* from NORMAL and use the black 5.5 x 2.1mm barrel cable.

Eventide Pedals

You can power an Eventide Stompbox, like TimeFactor or PitchFactor, using a special “current doubling” cable. This is a parallel Y-cable used to combine both outputs 5 and 6 to double the available current. Set switches 5 and 6 both *away* from NORMAL and use a current doubler adapter (not included) with the red 5.5 x 2.5mm barrel cable.

SAG Output

Outputs 7 and 8 permit you to adjust or SAG the voltage from 9V down to about 4V. To enable this feature you must set the corresponding switch *away* from NORMAL. This allows you to simulate worn batteries. This is mostly useful for transistor-based fuzz and distortion circuits, as modern opamp designs are minimally affected by variations in supply voltage. It is not recommended for digital pedals.

Voltage Doubler and Current Doubler Cables

There are two types of Y-cables which will combine a pair of Pedal Power outputs for additional capability. We call them *voltage doubler* and *current doubler* cables. They are available as a complete cable, or an adapter which you connect to an existing Pedal Power

cable. You can purchase these cables from your dealer or directly from Voodoo Lab.

The voltage doubler cable combines two Pedal Power outputs in series. When outputs are combined in series, you get the combined voltage of both outputs. For example, if you connect this cable to two 9V outs, you will get 18V. If you connect it to two 12V outs, then you get 24V. This does not change the current capability. If you use 100mA outputs, you still get a maximum of 100mA combined.

The current doubler cable combines two outputs in parallel to increase the current capability. Using this cable on outputs 5 and 6 with both switches set away from NORMAL will provide approximately 12V at 400mA. That's the correct setting for pedals that come with a 9V *unregulated adapter*, such as the Eventide TimeFactor.

More About Cables

The DC power cables supplied with your Voodoo Lab Pedal Power are suitable for most common pedal effects. If you need additional cables they are available from your dealer or directly from Voodoo Lab. If you need cables of a different length, with reversed polarity, or with a special connector, contact us and we can provide them for you.

Visit www.voodoolab.com/cables for more information.

Operation

Using the above information, connect the DC power cables between the Pedal Power outputs and the power jacks on your pedal effects. Now connect the AC power cord from the AC power input jack on the Pedal Power to a suitable AC outlet. The Pedal Power's red LED power indicator will light, telling you that it's working properly.

Positive Ground Effects

Almost all DC powered effects are negative ground. This means that the negative terminal of the battery or power supply is connected to audio ground. There are a few exceptions which are positive ground, such as some vintage germanium transistor designs and octavia-based circuits.

When you combine negative ground and positive ground effects in the same system, you must isolate power between them. Attempting to power both types of effects with a common ground (non-isolated) power supply or a daisy-chain cable will short the output of the power supply causing your effects to shut down and possibly damaging the power supply. Since Pedal Power's outputs are isolated, it will work fine.

Reversed Polarity

Almost all guitar pedal effects use a *center negative* barrel jack for power. This is considered standard polarity. Barrel jacks wired for *center positive* are considered reversed polarity. You can power reversed polarity effects with a Pedal Power by using the correct reversed polarity cable. It doesn't matter that the effect is negative ground or positive ground, both types can be wired for either polarity.

The black barrel cables included with your Pedal Power 2 Plus are standard polarity center negative. The 3.5mm mini plug is tip positive, which is also standard for pedals which use this connector.

About Power Requirements

Most manufacturers don't specify the actual power usage of their effects. The labeling on the effect and their specifications more often will match the ratings of the supplied adapter only. Here are some tips to help you determine if the effect can be powered by your Pedal Power 2 Plus.

A device which can be powered by a single 9V battery will require less than 70mA and can be powered by any output with the corresponding switch set to NORMAL.

The only thing you can determine from the current rating of the supplied power adapter is that the effect will draw less than the specified value. For example, if the adapter is rated for 600mA, you know that your effect requires *less than* 600mA. You don't know how much less.

Unregulated power adapters are rarely run at their full capacity, which means that their actual voltage will typically be 20-30% higher than their rated voltage. A 9VDC unregulated adapter will usually be closer to 12VDC. If the effect doesn't run from a battery, it probably requires more than 100mA and should be operated from output 5 or 6 with the switch *away* from NORMAL.

You can identify a switch-mode power adapter because they are very light weight, usually specify a wide input voltage (90-250VAC), and output DC only. They are inherently regulated so that if the output says 9VDC, you should run the effect at that same voltage.

Some effects which specify AC will also operate from DC. However, since AC voltages are specified as Vrms, the peak voltage is 40% higher and a device which normally operates from 9VAC should use 12VDC. Line 6 Modelers (DL4, MM4, etc.) are a good example of pedals which specify 9VAC input voltage, but can be powered from 12VDC.

Note that many devices are designed to operate from AC only, and require the AC voltage to drive a transformer, voltage multiplier, or derive bipolar (both + and -) power. These will not work from DC and a Pedal Power 2 Plus can only power them using the courtesy outlet and their supplied adapter.

If you are unsure which Pedal Power output and setting to use, or whether an effect can be powered by your Pedal Power, try searching our forum at www.voodoolab.com/forum.

Specifications

Input: IEC connector
120V 50/60Hz (North America model)
100V 50/60Hz (Japan model)
230V 50/60Hz (Europe/Australia model)

Model and input power are marked on the bottom of unit.

Outputs: 5.5x2.1mm barrel connectors center negative
Short circuit protected.

DIP Switch: NORMAL		
Output	DC Voltage	Max current
1-4 (ACA)	9V	100mA
5-6 (L6)	9V	250mA
7-8 (SAG)	9V	100mA

DIP Switch: ON		
Output	DC Voltage	Max current
1-4 (ACA)	12.3V	60mA
5-6 (L6)	14.5V / 12V (unregulated)	50mA / 200mA+
7-8 (SAG)	Adjustable 4V - 9V	100mA

Physical: 6.0" wide x 3.4" deep x 1.75" tall (152x86x45mm)
Weight 2 lbs. (0.9 kg).

Special: Toroidal power transformer.
Auxiliary AC outlet, 200 watts max.

Warranty

Voodoo Lab warrants this product against defects that are due to faulty material or workmanship for a period of five years from the date of original retail purchase. This warranty does not include damage to the product resulting from accident or misuse. This warranty is given to the original purchaser only and it is not assignable to any other person.

If the product should become defective within the warranty period, Voodoo Lab will repair it or replace it free of charge, provided it is returned freight prepaid to Voodoo Lab with a valid RMA (return material authorization) number.

This warranty shall not apply to any goods that have been repaired or altered by anyone other than the manufacturer. There are no warranties which extend beyond the terms described herein.

Should you experience any difficulty with this Voodoo Lab product, contact us as described below. If it is determined that the product must be returned to the factory for repair, you will be issued an RMA and given shipping and packaging instructions.

How to Reach Us

You can reach us by any of the following:

Tel: 707 545 0600

Fax: 707 545 9777

Mail: Voodoo Lab
3165 Coffey Lane, Santa Rosa, CA 95403

Email: info@voodoolab.com

Forum: www.voodoolab.com/forum